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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

DONG, DALEI

ART UNIT PAPER NUMBER

2879

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | |
|-----------------|----------------|--|
| Application No. | Applicant(s) | |
| 09/837,105 | KIMURA, HAJIME | |
| Examiner | Art Unit | |
| Dalei Dong | 2879 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-74, 76, 78 and 79 is/are pending in the application.
- 4a) Of the above claim(s) 2-55, 65-74 and 76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 56-64, 78, 79 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 56 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,617,784 to Abe.

Regarding to claim 56, Abe discloses in Figure 1, a self-light emitting display device comprising a substrate (1); a first electrode (2) formed over a first surface (12) of the substrate; an EL layer (4) formed on the first electrode (2); a second electrode (6) formed on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate which is opposite to the first surface (12), wherein

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an angle between the light scattering body (plurality of prisms) and the second surface (11) is not less than 60 degrees and is less than 180 degrees (see column 3, lines 60-65).

Regarding to claim 59, Abe discloses the first electrode (2) comprises a transparent material (see column 4, lines 50-57), and the second electrode (6) comprises a light shielding material (see column 5, lines 28-33).

Regarding to claim 60, Abe discloses the light-scattering body comprises a transparent material (see column 4, lines 9-16).

Regarding to claim 61, Abe discloses the light-scattering body comprises one selected from the group consisting of polycarbonate, polyimide, BEB, indium oxide, and tin oxide (see column 4, lines 9-16).

Regarding to claim 62, Abe discloses the thickness (H) of the light-scattering body (50-600 mm) is greater than or equal to a pitch (W1 of 10-400 mm) of the light-scattering body (see column 3, line 66 to column 4, line 8).

Regarding to claim 64, Abe teaches the self-light emitting device is incorporated into one of selected from the group consisting of an EL display, a video camera, and a computer, further it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus

from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,617,784 to Abe in view of U.S. Patent No. 5,920,080 to Jones.

Regarding to claim 57, Abe discloses in Figure 1, a self-light emitting display device comprising a substrate (1); a first electrode (2) formed over a first surface (12) of the substrate; an EL layer (4) formed on the first electrode (2); a second electrode (6) formed on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate which is opposite to the first surface (12), wherein an angle between the light scattering body (plurality of prisms) and the second surface (11) is not less than 60 degrees and is less than 180 degrees (see column 3, lines 60-65).

However, Abe does not disclose the first electrode is electrically connected to a thin film transistor. Jones teaches in Figure 2, a thin film transistor formed on the integrated circuit (120) electrically connected to the first electrode (200) via plug (140).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the thin film transistor of Jones for the electroluminescent device of Abe in order to provide an active matrix design that maximizes the peak luminance and reduce edge shorting of the light emitting device.

Regarding to claim 58, Jones teaches in Figure 3, the first electrode (200) is an anode and the second electrode (250) is a cathode and the motivation to combine is the same as above.

5. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 6,617,784 to Abe in view of U.S. Patent No. 6,147,451 to Shibata.

Regarding to claim 63, Abe discloses in Figure 1, a self-light emitting display device comprising a substrate (1); a first electrode (2) formed over a first surface (12) of the substrate; an EL layer (4) formed on the first electrode (2); a second electrode (6) formed on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate which is opposite to the first surface (12), wherein an angle between the light scattering body (plurality of prisms) and the second surface (11) is not less than 60 degrees and is less than 180 degrees (see column 3, lines 60-65).

However, Abe does not disclose a pixel pitch is at least twice as long as a pitch of the light scattering body. Shibata teaches in Figures 2-5, wherein a pixel pitch is at least twice as long as a pitch of the light scattering body.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the electroluminescent device of Abe in the pixel array of Shibata in order to provide clear and high luminescent device while improve the resolution of the light-emitting device.

6. Claim 78 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 6,617,784 to Abe in view of U.S. Patent No. 6,777,871 to Duggal.

Regarding to claim 78, Abe discloses in Figure 1, a self-light emitting display device comprising a substrate (1); a first electrode (2) formed over a first surface (12) of the substrate; an EL layer (4) formed on the first electrode (2); a second electrode (6) formed on the EL layer (4); and a light scattering body (plurality of prisms) formed over a second surface (11) of the substrate which is opposite to the first surface (12), wherein an angle between the light scattering body (plurality of prisms) and the second surface (11) is not less than 60 degrees and is less than 180 degrees (see column 3, lines 60-65).

However, Abe does not disclose the light scattering body is made of a different material from the substrate. Duggal teaches in Figures 1-3, the light scattering body (3) is made of a different material from that of the substrate (see column 6, lines 14-30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the light scattering body with different material from that of the substrate of Duggal for the self-light emitting display device of Abe in order to improve the external quantum efficiency of the light emitting device.

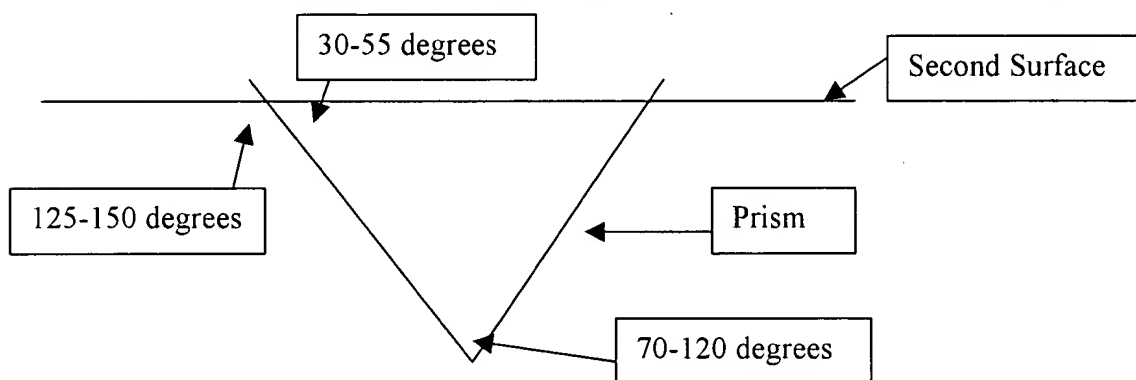
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Regarding to claim 79, Abe discloses in Figure 1, wherein the first electrode (2) comprises an transparent material, and the second electrode comprises a light shielding material.

Response to Arguments

7. Applicant's arguments filed January 21, 2005 have been fully considered but they are not persuasive.

In response to Applicant's argument that the Abe reference fails to teach or suggest an angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees. The Examiner agrees with the Applicant's assertion that the Abe reference discloses the apex or the uppermost point of the prisms to be between 70 to 120 degrees. Referring to Figure below provided by the Examiner:



As shown in the figure above, Abe reference discloses the apex or the upper most point of the prisms is between 70 to 120 degrees, and because the prisms have a constant pitch, therefore the prism forms an isosceles triangle. The prism and the second surface

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forms two angles one is 30-55 degrees and the second angle is 125-150 degrees. The Applicant merely claims an angle between the light scattering body and the second surface is not less than 60 degrees and is less than 180 degrees. Therefore, the Examiner interprets the angle between the light scattering body and the second surface to be the second angle of 125-150 degrees which satisfies the claimed range of angles. Thus, the Examiner asserts that the Abe reference teaches the claimed invention and maintains the rejection.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

March 25, 2005



Vip Patel
Primary Examiner
Art Unit 2879